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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,755	06/28/2001	Lawrence M. Burns	1875.0350001	3392
26111	7590	01/30/2004	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LEE, BENNY T	
			ART UNIT	PAPER NUMBER

2817

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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SYNOPSIS DATE:

APR 29

## References

THE STATE OF CALIFORNIA, ss. I, \_\_\_\_\_, County Clerk, do hereby certify that the foregoing is a true and correct copy of the original as the same appears in the files of the County Clerk.

- ☐ This application has been examined ☒ Responsive to communication filed on 5 Nov 2003 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), 0 days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☐ Notice of References Cited by Examiner, PTO-892. 2. ☐ Notice re Patent Drawing, PTO-948.  
3. ☒ Notice of Art Cited by Applicant, PTO-1449. 4. ☐ Notice of Informal Patent Application, Form PTO-152  
5. ☐ Information on How to Effect Drawing Changes, PTO-1474. 6. ☐

## Part II SUMMARY OF ACTION

1. ☒ Claims 1-9, 11-34, 36-39 are pending in the application.
- Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☒ Claims 10, 35 have been cancelled.
3. ☒ Claims 1-9, 11-21; 36-39 are allowed.
4. ☒ Claims 22 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☒ Claims 1-9, 11-34, 36-39 are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☒ The proposed additional or substitute sheet(s) of drawings, filed on 5 Nov 2002, has (have) been ☒ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other \_\_\_\_\_

### EXAMINER'S ACTION

SN 892755  
U.S.GPO:1990-259-282

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In view of the below indicated allowability of claim 1, claims 2-6, 9, 11-21 have been rejoined with claim 1.

Claims 23-34 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 4.

The disclosure is objected to because of the following informalities: In replacement paragraph [0066], note that it is unclear whether the reference to "425 mils ..." is appropriate since the description of this paragraph pertains to "Fig. 8" while the "425 mils" limitation appears to relate to the "fig. 7" description. Clarification is needed. In replacement paragraph [0072], next to last line therein, note that "signal122" needs to be separated. Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels need explicit description in the specification: fig. 1B (  $75\Omega$ ); figs. 2A, 2B (s, w, h,  $\epsilon_r$ ); fig. 5B, all reference labels except "512"; fig. 7 (.425"); Figs. 8, 10, 11, the dimensions labeled therein. Appropriate correction is required.

The drawings are objected to because of the following: In fig. 8, note that "BALUN INDICATOR" should correctly be --BALUN INDUCTOR--; In fig. 10, note that reference label "512" still needs to be provided as per the description of fig. 10 at paragraph [0071]. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

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The following claims have been found objectionable for reasons set forth below:

In claims 2-5, note that --plurality of-- should precede "first coupled" & "second coupled", respectively for consistency of description.

In claim 22, lines 3, 4, note that "said" should be deleted at each occurrence and --ones of said plurality of coupled-- should follow each occurrence of "corresponding" for a proper characterization.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tang (of record).

Tang (e.g Figs. 3a, 3b) discloses a balun transformer/filter (300) comprising a plurality of first coupled metal traces (i.e. transmission) lines (301a, 302a), being less than a quarter wavelength in electrical length, and having an unbalance signal applied to port (311) and a plurality of second coupled traces (301b, 302b), being less than a quarter wavelength in electrical length, and coupled to the plurality of first traces while providing ports (312a, 313b) with output balance signals which, as known to those of ordinary skill in the art to inherently be of equal amplitude but are opposite (i.e. 180) in phase. As described with respect to Figs. 3a & 3b, a

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parallel capacitor (304) can be configured to have parallel capacitances (e.g.  $C_1, C_2, \dots, C_n$ , etc) which are connected to the transmission line traces to effect adjustment of the balun transformer/filter.

As described at col 4, ls 34-36, by properly increasing the capacitance of the capacitors, the balun transformer/filter can be reduced in size, (i.e. a physical dimension of the balun transformer/filter, including the transmission line traces, can be reduced). In other words, an appropriate increase in the capacitance of the capacitors (i.e.  $C_1, C_2, \dots, C_n$ ) can effectively cause a reduction in the size of the circuit thus resulting in a concomitant reduction in the physical length dimension of the corresponding transmission line trace.

Applicant's arguments with respect to claims 1, 7, 8, 10, 35; 22; 36-39 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-9, 11-21; 36-39 are allowable over the prior art of record. In particular, the limitation in claims 1, 36 of the first metal traces being capacitively coupled to ground by a capacitor distinguishes these claims over the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benny Lee whose telephone number is (571) 272 1764.



BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817

B. Lee

January 23, 2004